

### REMARKS

New claims 47 to 65 have been added. Support for the new claims can be found, throughout the specification, in the original claims and for example, at page 2, lines 14 to 16 of the specification. Claims 1, 21, 29, and 46 has been amended. Support can be found, for example, in Figures 1 to 4 and at page 6, line 19, of the specification. No new matter has been added. Claims 1-65 are pending. Claims 1, 21, 29, 44, 45, 46, and 52 are independent.

Applicants thank the Examiner for indicating the allowability of claims 8-11, 15-17, 27, 32-35 and 40-42. See page 4 of the Office Action and page 1 of Advisory Action.

Applicants thank the Examiner for a telephonic conference discussing the above-mentioned application, the Office Action and Advisory Action with Applicants' representatives on November 25, 2002 ("Conference"), the features of the invention as claimed and described in the specification and figures were discussed along with the pending rejection.

### 1449

The Examiner indicated at page 2 of the Office Action that reference "AR" has not been considered "because it lacks pertinent information such as date of publication." Applicants are in the process of obtaining a date for reference "AR" on form PTO-1449 and will submit the date as soon as possible).

### Objections

The Examiner has objected to "reference number 110 (Fig. 4) is not specified." See page 2 of the Office Action.

In the Response to Office Action, filed on May 20, 2002. Applicants amended the paragraph beginning at page 6, line 11 to include orifice plate protector strip 110. Applicants respectfully request reconsideration and withdrawal of this objection.

**Rejection under 35 U.S.C. § 102(e)**

Claims 1-7, 12-14, 18-26, 28-31, 36-39, and 43-46 have been rejected under 35 U.S.C. § 102(e)<sup>1</sup> as being anticipated by U.S. Patent No. 6,109,737 to Kishima *et al.* ("Kishima"). Claim 2-7, 12-14, 18-20, 22-26, 28, 30-31, and 36-39 depend from independent claims 1, 21, 29, 44, 45 and 46.

The Examiner asserts that Kishima discloses the following claim limitations, among others:

- An ink jet printing module and method of manufacturing same comprising:
- contacting a first component (32) of an ink jet printing module (19) having a surface with a thermoplastic bonding component (50) (Fig. 3); and
- heating the surface to bond the surface to the thermoplastic bonding component (Abstract, lines 4-6) (see pages 4-5 of Office Action).

**Independent claims 1, 21 and 29**

The Examiner further contends that "Kishima discloses a patterned thermoplastic bonding component (50). (50) of Kishima is patterned in the sense that it has a specific form/shape and has a design including (51) over its surface." See page 5 of the Office Action.

Applicants have discovered an ink jet module and method of manufacturing an ink jet module. See independent claims 1, 21 and 29. The method include contacting a component with a thermoplastic bonding component, the thermoplastic bonding component including dimensions of a surface of the first component and heating the surface of the component to bond the surface to the thermoplastic bonding component. See independent claims 1 and 21. The ink jet module includes a piezoelectric element having a surface and a thermoplastic bonding component, the thermoplastic bonding component having dimensions of a surface of a first component heat-bonded to a surface of the piezoelectric element. See independent claim 29.

Kishima does not describe a thermoplastic bonding component having dimensions of a surface of a first component. See amended independent claims 1, 21 and 29. Specifically, Kishima discloses that "the protruding portion 51 and pattern layer 52 are respectively laminated on one main surface 50A of the thermoplastic layer 50." See Kishima at Figure 6(B) and column

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<sup>1</sup> The filing date of the Application is December 29, 2000. Kishima issued prior to Applicants filing date, on August 29, 2000. Applicants believe that Kishima may qualify as a reference under 35 U.S.C. § 102 (a) rather than § 102 (e).

18, lines 14 to 15. In Kishima, the thermoplastic bonding component does not include the dimensions of the first component. Instead, Kishima discloses "the metallic layer 62 is formed by copper, the above protruding pattern 51 and pattern layer 52 can be formed using dry film resist, using the aqueous solution of ferric chloride." See Kishima at Figure 6(A) and (B) and col. 18, lines 55 to 57. In Kishima, a metallic layer is etched over component 50. In independent claims 1, 21 and 29, the thermoplastic bonding layer itself has dimensions of the first component. See, for example, Figure 4 of the specification. A laminated metallic pattern over a thermoplastic layer is not thermoplastic bonding layer having dimensions of a surface of the first component. For at least these reasons, independent claims 1, 21, and 29 and claims that depend therefrom are not anticipated by Kishima.

Independent claim 46

Applicants have also discovered a method of manufacturing an ink jet module including adhering a **peelable protector strip over an orifice plate**. See independent claim 46. While Applicants believe that Kishima does not describe a protector strip at all, claim 46 has been amended to clarify that such a protector strip is peelable. Kishima does not disclose a peelable protector strip. Kishima merely discloses a "liquid repelling film 251". See Kishima at col. 38, line 33 to 35. Thus, independent claim 46 is not anticipated by Kishima.

Independent claim 44 and 45

Independent claims 44 and 45 have also been rejected by the Examiner. See pages 3-4 of the Office Action. However, a *prima facie* case has not been presented by the Examiner. Specifically, Kishima does not describe a method of manufacturing an ink jet printing module including contacting a first component of an ink jet printing module having a surface with a thermoplastic bonding component, and **heating the surface to bond the surface to the thermoplastic bonding component wherein the first component of an ink jet printing module includes lead zirconium titanate** (see independent claim 44). Kishima also does not describe the method of manufacturing an ink jet printing module including contacting a first component of an ink jet printing module having a surface with a thermoplastic bonding component, and heating the surface to bond the surface to the thermoplastic bonding component wherein the ink jet printing module includes an ink channel, a piezoelectric element being positioned to subject ink within the channel to jetting pressure, and electrical contacts arranged

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for activation of the piezoelectric element and **wherein the thermoplastic bonding component is placed over the ink channel and includes a filter** (see independent claim 45). Thus, independent claims 44 and 45 are not anticipated by Kishima.

For at least these reasons, independent claims 1, 21, 29, 44, 45 and 46 and claims depending therefrom are not anticipated by Kishima. Applicants respectfully request reconsideration and withdrawal of this rejection.

**New claims 47 to 51**

For at least the reasons discussed above, new claims 47 to 51 are patentable over the cited reference.

**New independent claim 52 and dependent claims therefrom**

The cited reference does not describe a thermoplastic component including a thickness between 1 micron and 150 microns. Thus, new claims 52 to 65 are allowable.

**CONCLUSION**

Applicants asks that all claims be allowed. Enclosed is a check in the amount of \$1204 in payment of excess claims fees and a one month extension of time. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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**Version with markings to show changes made**

--1. (Amended) A method of manufacturing an ink jet printing module comprising:  
contacting a first component of an ink jet printing module having a surface with a  
[patterned] thermoplastic bonding component, **the thermoplastic bonding component having  
dimensions of a surface of the first component;** and  
heating the surface to bond the surface to the [patterned] thermoplastic bonding  
component.--

--21. (Amended) A method of manufacturing an ink jet printing module comprising:  
contacting a first component of an ink jet printing module having a surface with a  
[patterned] thermoplastic bonding component, **the thermoplastic bonding component having  
dimensions of a surface of the first component;**  
contacting a second component of the ink jet printing module having a surface  
with the [patterned] thermoplastic bonding component; and  
heating the surface to bond the surfaces to the [patterned] thermoplastic bonding  
component.--

--29. (Amended) An ink jet printing module comprising a piezoelectric element having a  
surface, and a [patterned] thermoplastic bonding component, **the thermoplastic bonding  
component having dimensions of a surface of a first component** heat-bonded to the surface.--

--46. (Amended) A method of manufacturing an ink jet printing module comprising:  
contacting a first component of an ink jet printing module having a surface with a  
thermoplastic bonding component;  
contacting a second component of the ink jet printing module including a orifice  
plate having a surface with the thermoplastic bonding component; and  
adhering a **peelable** protector strip over the orifice plate.--

New claims 47 to 65 have been added.